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The Sociology of inclusive education in Spain: teachers' perceptions, barriers, and support needs

Sociología de la educación inclusiva en España: percepciones docentes, barreras y apoyos

Sociologia da educação inclusiva na Espanha: percepções docentes, obstáculos e necessidades de suporte

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Abstract Drawing on a mixed methods design, this article analyzes how Spanish teachers perceive disability and inclusive education as socio-educational phenomena. Questionnaire data (n = 502) showed generally favorable attitudes towards inclusion, but with clear generational differences: younger teachers reported higher confidence and stronger support for inclusive practices than older colleagues. At the same time, teachers identified persistent structural and attitudinal barriers, including insufficient resources, limited specialized training, and a lack of adapted materials and spaces. Qualitative findings deepened this picture, highlighting demands for more support staff, reduced class sizes, accessible infrastructures, and additional time to plan differentiated pedagogies. Taken together, these results suggest that teachers perceive important differences between the principles of inclusive education promoted in policy frameworks and their implementation in everyday school practices.

Keywords: inclusive education; disability; attitudinal and structural barriers; teacher training.



Resumen A partir de un diseño de métodos mixtos, este artículo analiza cómo el profesorado comprende la discapacidad y la educación inclusiva como fenómenos socioeducativos. Los datos de un cuestionario ($n = 502$) mostraron actitudes generalmente favorables hacia la inclusión, aunque con claras diferencias generacionales: el profesorado más joven declaró mayor confianza y apoyo a las prácticas inclusivas que sus colegas de mayor edad. Al mismo tiempo, el profesorado identificó barreras estructurales y actitudinales persistentes, como la insuficiencia de recursos, la escasa formación especializada y la falta de materiales y espacios adaptados. Los resultados cualitativos profundizaron este panorama, destacando demandas por más profesionales de apoyo, reducción de ratios de alumnos por clase, infraestructuras accesibles y tiempo para planificar pedagogías diferenciadas. En conjunto, los resultados sugieren que el profesorado percibe diferencias importantes entre los principios de la educación inclusiva promovidos en los marcos normativos y su implementación en las prácticas escolares cotidianas.

Palabras-clave: educación inclusiva; discapacidad; barreras actitudinales y estructurales; formación del profesorado.

Resumo Este artigo analisa como professores na Espanha compreendem a deficiência e a educação inclusiva como fenômenos socioeducacionais, a partir de uma abordagem de métodos mistos. Os dados de um questionário ($n = 502$) indicaram atitudes geralmente favoráveis à inclusão, mas com diferenças geracionais claras: docentes mais jovens relataram maior confiança e apoio às práticas inclusivas do que colegas mais velhos. Ao mesmo tempo, identificaram-se obstáculos estruturais e atitudinais persistentes, incluindo falta de recursos, formação especializada limitada e escassez de materiais e espaços adaptados. Os achados qualitativos aprofundaram esse quadro, evidenciando demandas por mais profissionais de apoio, redução do número de alunos por turma, infraestruturas acessíveis e tempo para planejar pedagogias diferenciadas. Em conjunto, os resultados sugerem que os professores percebem diferenças importantes entre os princípios da educação inclusiva promovidos nos marcos normativos e a sua implementação nas práticas escolares cotidianas.

Palavras-chave: educação inclusiva; deficiência; barreiras atitudinais e estruturais; formação docente.

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Introduction and Background¹

The concept of disability has undergone significant transformations over time, moving from predominantly biomedical interpretations toward broader social and relational perspectives. From a sociological standpoint, disability is increasingly understood not only as an individual condition, but also as a phenomenon shaped by social structures, institutional arrangements, and cultural norms that may generate exclusion or marginalization. Zaks (2023) argues that the conceptualization of disability (regarding the disability model) has moved from a biomedical conception of disability to a social perspective, and then to a biopsychosocial perspective. Zaks proposes a fourth alternative: the normalization model of disability. His approach aims to show how the phenomenon of normalization has had a negative impact on people with disabilities and therefore argues that this normalization should be resisted.

Social structures often generate barriers that restrict the participation of people with disabilities in different spheres of social life, including education, employment, health services, and mobility (Alonso & Vigo-Arrazola, 2024; Mijailović *et al.*, 2024). In addition to physical barriers, attitudinal barriers – such as negative beliefs or discriminatory behaviors toward people with disabilities – continue to play an important role in processes of exclusion.

Because these barriers are socially constructed, they can also be transformed through social and institutional change. Educational processes – both formal and informal – play an important role in shaping attitudes toward disability and in promoting more inclusive social environments (Malin *et al.*, 2020). Consequently, if these barriers are socially constructed we can transform them, replace them with facilitators, or articulate alternative strategies. At the same time, the premises of a social perspective of disability as well as that of normalization (Zaks, 2023) complement this analytical approach, as it moves away from a normative interpretation of humanity. After all, the social perspectives on disability (i.e., human rights, normalization, among others) are, in one way or another, devices that oppose what was previously established (Lawson & Beckett, 2020).

The inclusive model in education comes from the need to recognize and eliminate obstacles to learning so that all students can fully engage and succeed within the educational environment. This implies not only the need to work towards social equity and universal accessibility, but also for the development of inclusive educational models. Within this perspective, inclusive education is increasingly understood as a key dimension of educational quality. These principles are reflected in several international policy frameworks, including the United Nations Convention

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on the Rights of Persons with Disabilities (United Nations, 2006), the European Disability Strategy 2010–2020 (European Commission, 2010), and the United Nations 2030 Agenda for Sustainable Development, particularly Sustainable Development Goal 4, which seeks to ensure inclusive and equitable quality education for all (United Nations, 2024).

From a sociological perspective, schools are not neutral spaces, but institutional environments structured by organizational routines, distribution of resources, and cultural expectations that influence how diversity is managed. Consequently, the implementation of inclusive education depends not only on formal policies but also on the institutional conditions within the schools and the professional practices of teachers.

In this context, an important question emerges: how do teachers perceive disability and inclusive education within the institutional realities of contemporary schools?

Within the institutional context, teachers play a central role in the implementation of inclusive education policies. While inclusive education involves multiple actors within the educational system, teachers occupy a particularly strategic position, as their attitudes, professional training, and classroom practices directly shape how inclusive policies are translated into the everyday educational practice (Paulsrud & Nilholm, 2020). They will only be able to carry out inclusive pedagogical practices if they have beliefs and attitudes consistent with such inclusive strategies and policies. Research shows that teachers' attitudes towards disability can influence their students' learning through self-esteem and motivation (Gallego-Ortega & Rodríguez-Fuentes, 2021). However, as we have previously indicated, analytical perspectives on disability focus on intervening at a broad level in society, instead of a specific field (education, politics, etc.). This article examines how teachers in Spain perceive disability and inclusive education within their professional contexts. By analyzing the teachers' perceptions of institutional conditions, professional training, and barriers to inclusion, the study contributes to the current sociological debate on the implementation of inclusive education policies. In particular, it explores how teachers' experiences reflect broader institutional challenges in translating normative inclusion commitments into everyday educational practice.

Materials and Methods

Based on the existing literature on inclusive education and teachers' attitudes, the study addresses the following hypotheses:

- *H1: Younger teachers tend to report more favorable perceptions of inclusive education than older teachers.*
- *H2: Despite the formal promotion of inclusive education policies, teachers perceive significant gaps between the principles of Equal Opportunities and Universal Access and their implementation in everyday school practices.*
- *H3: The organizational structure of mainstream schools continues to reflect a predominantly homogenizing educational model that teachers perceive as insufficiently adapted to the needs of students with disabilities.*

The main objective of this study was to analyze the attitudes of Spanish teachers in relation to disability and its socio-educational inclusion. The ultimate purpose was to understand how this group perceives the reality of disability and the implementation of practices aimed at inclusion, thereby contributing to the design of future proposals on possible lines of action for improvement in inclusion and educational quality.

This study used a mixed methods research design. Data was collected through a questionnaire specifically designed for this study, which included both closed-ended and open-ended questions. The survey allowed the researchers to collect quantitative information on teachers' perceptions of inclusive education and related institutional conditions.

The questionnaire included items addressing accessibility, institutional resources, teacher training, and perceived barriers to inclusive education. The data enabled descriptive statistical analyses aimed at examining patterns in teachers' perceptions of the socio-educational conditions associated with the inclusion of students with disabilities in their schools as well as the broader educational system.

To ensure analytical consistency between the theoretical framework and the empirical strategy, the hypotheses were operationalized through specific dimensions captured in the questionnaire

H1 was examined by comparing teachers' perceptions across different age groups, focusing on variables related to attitudes towards inclusion, perceived preparedness, and evaluation of institutional conditions.

H2 was operationalized through items related to the availability of resources, accessibility conditions, adequacy of teacher training, and the presence of adapted materials and institutional support. These indicators captured the teachers' perceptions of the gap between the formal principles of Equal Opportunities and Universal Access and their implementation in everyday school practices.

H3 was operationalized through variables addressing the organizational and structural characteristics of mainstream schools, including school infrastructure,

classroom functioning, availability of adapted spaces, and flexibility in addressing student diversity. These dimensions allowed us to assess whether the teachers perceive the schools as operating under a predominantly homogenizing educational model.

Participants

The participants were active teachers working in Spain's national territory, in Primary Education, Secondary Education, Pre-school Education, Baccalaureate, and Vocational Training, as well as in a Special Education center. Specifically, 502 teachers participated. The work centers to which they belonged were public, subsidized, and private.

The study analyzed the perceptions of tutor-teachers and specialist teachers. It included all types of schools and educational modalities present in the Spanish school institution. This includes both mainstream and special education teachers, as well as combined and preferential schooling teachers, as well as guidance teams.

Although the sample cannot be considered statistically representative of the entire population of Spanish teachers, the number and diversity of respondents provided a useful exploratory overview of the teachers' perceptions across different educational contexts.

Instrument and Procedure

A short and simple questionnaire was developed, consisting of 22 questions, mostly closed-ended (yes/no), Likert-type scaled, and short answer. Only two responses were left open-ended, relating to possible inclusive improvements and material resources. These were designed to collect qualitative data that would allow for a better understanding of the object of study. Ten questions corresponded to socio-demographic variables. The remaining twelve questions addressed socio-educational criteria.

The data was collected through an online questionnaire distributed via professional networks, email, and social media platforms commonly used by teachers (e.g., Facebook, Instagram, and WhatsApp). The study employed a non-probability sampling strategy based on snowball sampling, whereby participants were invited to share the survey with other teachers within their professional networks. This approach enabled the inclusion of teachers from diverse educational contexts across Spain.

The data collection period extended from January 2022 to December 2022. The Google-Form tool was chosen due to its versatility, ease of use, convenience of response, and the possibility of sending out and collecting a greater number of questionnaires through online platforms and social networks, which allowed the study to reach a sample from different geographical origins.

Participants were informed of the purpose of the study. This information and the consent form were presented on the first screen of the survey. All participants had to give their consent before continuing and completing the research protocol.

Table 1 summarizes the main dimensions, variables, and example items used in the questionnaire.

Table 1. Operationalization of variables and questionnaire items

Dimension	Variable	Example item	Scale
Accessibility	Adapted spaces	"The school has adapted spaces for students with disabilities"	Likert (1–10)
Infrastructure	School structure adequacy	"The school structure is well prepared for students with disabilities"	
Resources	Availability of support	"There are sufficient human and material resources"	
Teacher training	Self-perceived preparedness	"I feel prepared to work with students with disabilities"	
Institutional support	Administrative involvement	"Public administrations should be more involved in teacher training"	Open-ended
Classroom functioning	Inclusion feasibility	"Students with disabilities can follow normal classroom functioning"	
Perceived barriers	Structural and attitudinal limits	"There are important barriers to inclusive education in schools"	
Qualitative insights	Improvement needs	"What improvements would you recommend in your school?"	
Qualitative insights	Material needs	"What educational materials would you recommend?"	

Source: Own elaboration.

This operationalization strengthened the analytical consistency of the study by explicitly linking hypotheses, variables, and empirical evidence, thus enhancing the transparency and robustness of the research design.

Data Analysis and Visualization

Quantitative data was analyzed using SPSS (version 26). The analysis included descriptive statistics (frequency analysis and mean comparisons) as well as inferential tests to explore potential differences between groups. Specifically, ANOVA tests and

mean difference analyses were performed, followed by Tukey post hoc tests when statistically significant differences were detected.

For the graphic representation of results, the Python programming language (v.3.11) was used, employing *Matplotlib* and *Seaborn* libraries to generate descriptive and inferential visualizations in a reproducible format.

For the qualitative analysis, the teachers were asked two open questions: 1. If it were possible to introduce some general improvement in the center where you work, what would you recommend? 2. If you could recommend the acquisition of educational material for the center, what would you recommend? The software MAXQDA was used for the qualitative analysis. Quantitative analysis focused on the examination of key statistical variables. In terms of qualitative triangulation, the data obtained was reduced by inductive, emergent coding and categorization. In addition, a comparison of groups of responses and the cross-referencing of variables was carried out, which helped complement the analysis of the data, its results and discussion.

The qualitative findings were used to complement and contextualize the quantitative results, providing additional insight into the teachers' perceptions of the challenges and resource needs associated with inclusive education.

To further strengthen the integration of quantitative and qualitative evidence, this study followed a complementary triangulation approach. Quantitative results were used to identify general patterns in teachers' perceptions, while qualitative responses were analyzed to provide deeper insights into the underlying reasons, contextual conditions, and perceived challenges associated with those patterns.

In particular, qualitative data was used to interpret findings related to institutional resources, accessibility, teacher training, and perceived barriers, allowing for a more nuanced understanding of the discrepancies between formal inclusive principles and their practical implementation. This approach ensured that both strands of data were analytically connected, rather than treated as independent components of the study.

Results

The following section presents the main results of the study. First, we describe the general characteristics of the sample, including the composition by gender and educational stage, as well as key technical details of the data collection process. This provides the necessary context for interpreting the subsequent analyses.

A total of 522 teachers participated, but incomplete questionnaires or those with inconsistent responses were excluded ($n = 20$). Finally, 502 valid questionnaire responses were analyzed ($n = 502$), of which 391 (77.9%) were female and 111

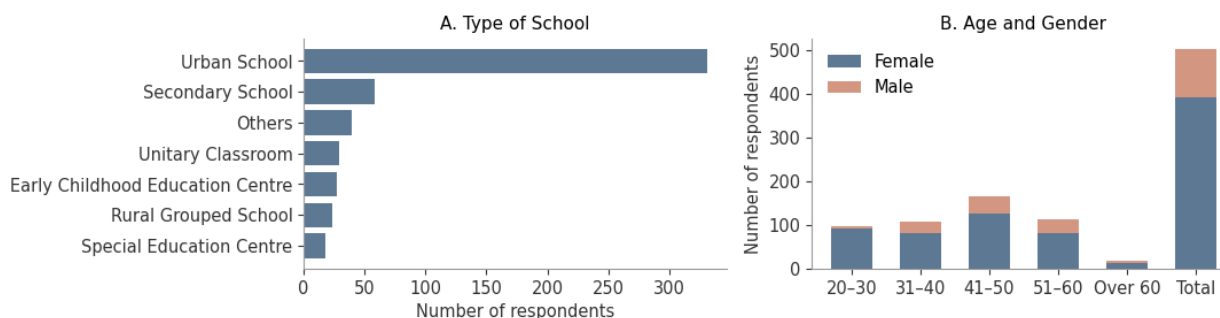
(22.1%) were male respondents. The participating teachers worked at different educational stages: Primary Education (46%), Secondary Education (21.9%), Pre-school Education (21.5%), Baccalaureate (4.2%), and Vocational Training (6.4%) (see Figure 1).

Participants were distributed across several Autonomous Communities of Spain, providing a diverse overview of teachers' perceptions across different educational contexts. The greater representations were from Castilla y León (27.1%), Aragón (19.7%), and Madrid (11.6%). The remaining regions each accounted for less than 10% of the sample. Participants were drawn from multiple Autonomous Communities across Spain, ensuring diversity in educational contexts.

As complementary information, teachers were asked whether they were classroom tutors or subject specialists. Results show that 58.2% were tutors, while the remaining 41.8% were specialists. The distribution of these participants by gender and age is also shown in Figure 1.

Regarding school characteristics, 76.7% of participants worked in public schools, 19.5% in state-subsidized schools, and 3.8% in private schools. Most of the participating schools were in urban areas (65.9%), with secondary schools accounting for 11.6% (Figure 1).

Figure 1. Sample Characteristics



Source: Own elaboration.

Finally, we asked whether the school where they worked had students with special needs, to which 72.9% responded they did, compared to a minority of 27.1% who claimed that their institutions did not.

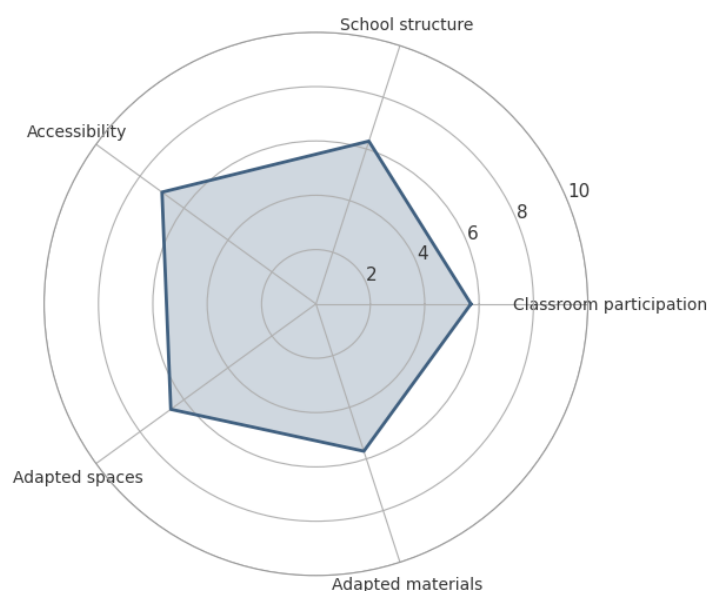
Educational Aspects

In relation to educational aspects, informants claimed that the educational centers were structurally equipped so that students with disabilities were able to have their right to education guaranteed. Nearly 80% of informants rated this aspect

higher than 5. In fact, the average value for this item was 5.7. However, as they sometimes stated in the qualitative responses, this is a somewhat controversial issue as it is difficult to quantify and, like other aspects, difficult to generalize, given the diversity of students' needs.

In the case of assessment of the school structure, the average value reached 6.3, indicating a generally positive evaluation of school structures. In addition, teachers were asked about accessibility. In this case, the responses showed the highest ratings, with an average score of 7.0. The distribution of teachers' perceptions across the different dimensions of educational inclusion is presented in Figure 2.

Figure 2. Teachers' Perceptions of Educational Inclusion Dimensions²

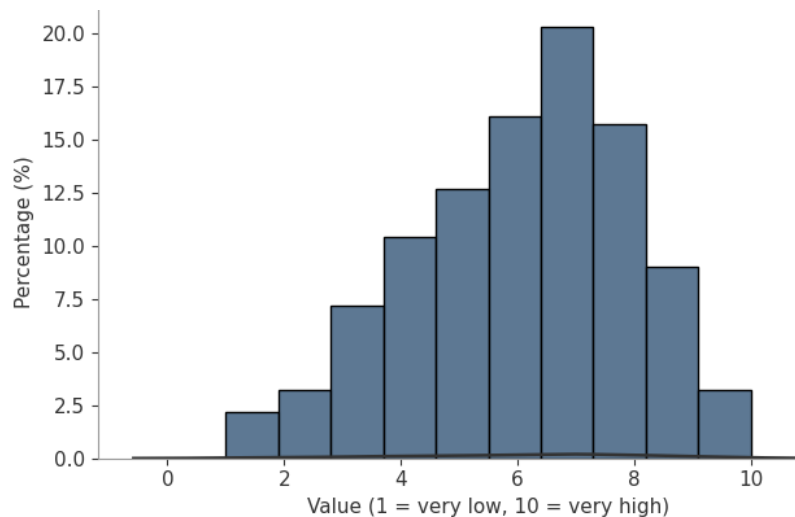


Source: Own elaboration.

Another relevant aspect concerns teachers' self-perception of their training to address disability in educational contexts. The results showed that 77% of respondents rated their training 5 or higher. Moreover, 48.2% of teachers rated their level of preparation at a 7 or higher. These results indicate that a large proportion of teachers perceived themselves as relatively well prepared to address disability-related issues in the classroom (see Figure 3).

² Relative distribution data is shown as percentage. Items were rated between 1 (do not agree at all) and 10 (strongly agree).

Figure 3. Assessment of teachers' self-perceived level of training in relation to disability



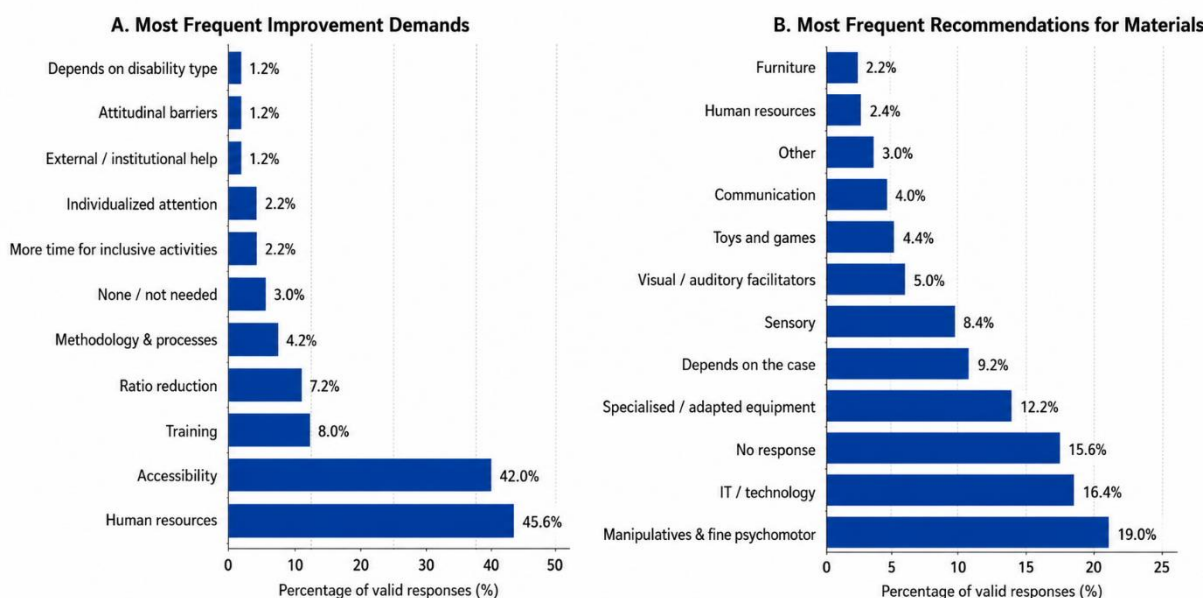
Source: Own elaboration.

On the other hand, and in line with the perception of training to manage disability, we asked about the perceived difficulty of managing such conditions in the classroom. The informants indicated that multiple disability is considered to be the most complex to manage (47.6%), followed by mental disability in 27.3% of cases and intellectual disability, selected by 12.7% of those surveyed. The rest of the disabilities were chosen residually with the following percentages: visual disability, 6.6%; motor disability, 3.4%; and sensory disability, 2.4%.

Qualitative Analysis

The qualitative analysis was centered on two open questions: 1. If it were possible to introduce some general improvement in the center where you work, what would you recommend? 2. In the case that you could recommend the acquisition of educational material for the center, what would you recommend? Both questions were used to establish the following main discursive categories: 1) improvements and demands; and 2) recommendations for the purchase of material.

Regarding the first question, the teachers' responses led us to create the following subcategories: human resources, accessibility, training, student ratio reduction, among others. Human resources (45.6%) and accessibility (42%) were the majority. Far behind these subcategories there was training (8%), student ratio reduction (7.4%), methodology and processes (4.2%), and none/not needed (3%) (see Figures 4a and 4b). These responses highlighted the teachers' demands for increased human resources, improved accessibility, additional training, and methodological adaptations to better address the needs of students with disabilities.

Figure 4. Teachers' Open-Ended Responses by Qualitative Category

Source: Own elaboration.

Accessibility and improvement of infrastructures, with 42%, ranked as one of the most important demands, sometimes the only perceived possibility for improvement; some respondents, although not very representative in number, said that no improvement was possible, as the removal of architectural barriers was not feasible (see Figure 4). With 8% and 7.4% respectively, training and the reduction of student ratios, the latter category being closely related to the increase in the number of teaching staff. Other aspects are the inclusion of new methodologies and innovation of more inclusive teaching-learning processes (4.2%); individualized attention (2.2%); having more time for the preparation of inclusive activities or the development of unstructured and individualized materials (2.2%), followed by aspects with lower percentages, such as external help in general and/or institutional help, or better coordination with institutions. Additionally, 1.2% claimed that this depends on the type of disability, and the same percentage mentioned the attitudinal barriers of teachers and students.

Regarding the question on recommendations for the acquisition of material, 19% of the codes refer to manipulative material, followed by computer and/or technological material (16.4%). In third place (15.6%) was the category “don’t know or no answer”. Many of the responses showed a lack of knowledge on the subject, with statements such as: “I have no training in the subject”, “I am not qualified to answer”, “I don’t know the subject”, “I am not a specialist in the subject” or “I would have to ask the specialist teachers”. In addition to these answers, there were some general and somewhat ambiguous ones, such as “as many as needed”, “all improvements are welcome”, “all kinds” or “specialized material for pupils with special educational needs” (all of them have been included in the category of

specialized and/or adapted material, which corresponded to a frequency of 61 categorized items, representing 12.2% of the total number of answers). Many of the informants did not opt for any particular material, as evidenced by the number of teachers who preferred to answer, “it depends on the disability” or “it depends on the case” (46 codes; 9.2%).

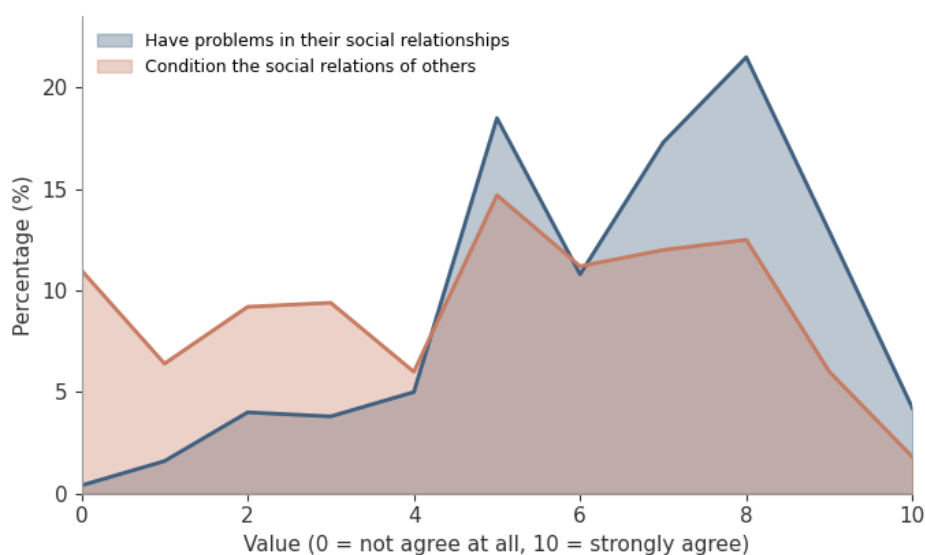
In relation to the availability of appropriate materials for inclusive education, there were some paradoxes between qualitative and quantitative information. This made it difficult to draw a clear conclusion. In fact, in the qualitative responses we saw that several informants showed a lack of knowledge in this regard. These responses suggested that teachers perceived limitations in the availability of specialized materials and resources necessary for inclusive educational practices.

Social Aspects

The educational environment cannot be understood in isolation. In fact, the school is conceived, together with the family, as one of the first socializing institutions of the population.

From the results we were able to extract that the opinion of teachers was that people with disabilities hardly condition the social relations of others (in this regard the average score for this item was 4.73 out of 10). On the other hand, when asked whether people with disabilities had problems in their social relationships, the average score rose to 6.5, indicating that certain limitations were detected in this regard (Figure 5).

Figure 5. Distribution of Teachers’ Perceptions of Social Aspects of Inclusion³



Source: Own elaboration.

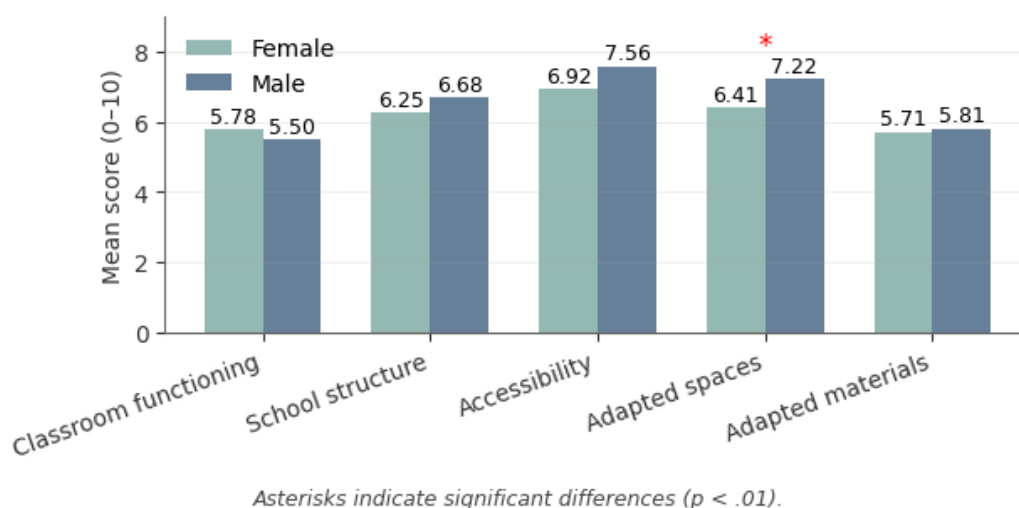
³ Data in percentage, relative distribution.

Assessment of Educational Aspects as a Function of Gender and Age

We investigated possible differences in the evaluation of educational aspects. To do so, we considered the variables gender and age, the mean difference test to compare two groups of individuals (in the case of gender) and ANOVA⁴ to compare more than two groups of individuals (in the case of age).

In terms of comparison by gender, differences were only observed in the item relating to the provision of spaces adapted for movement. Specifically, it was men who rated this aspect highly than women. Focusing on age⁵, we observed differences in the following items: people with disabilities can follow the normal functioning of the classroom; the structure of the school is well equipped for children with disabilities; and the school has spaces adapted for movement (Figure 6).

Figure 6. Gender Differences in Educational Inclusion Aspects



Source: Own elaboration.

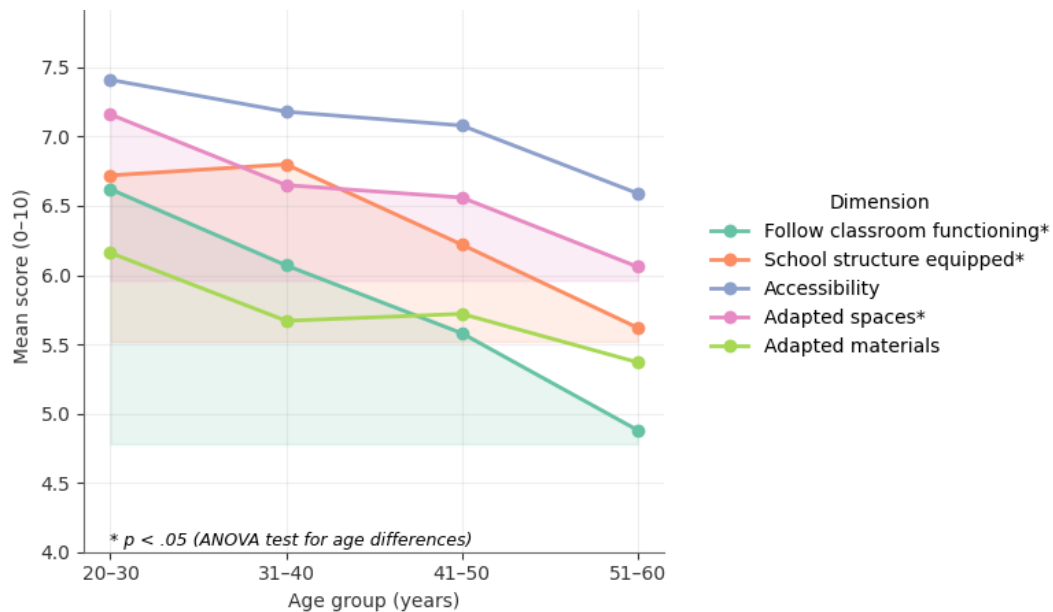
The ANOVA analysis only allowed us to conclude that there were differences between the groups, but it did not specify which ones. In order to elaborate on this, we made use of Tukey's test, which allowed us to compare the age groups in pairs.

⁴ In all cases we checked that the requirements established for the application of the chosen statistical tests (mean difference test and ANOVA) were met, specifically the normality of the dependent variable needed to be guaranteed, for which we analysed the skewness and kurtosis in the phase prior to the analysis. Secondly, there had to be homoscedasticity, i.e. the variances of all populations should be equal or approximately equal. To check this aspect, we used Levene's test. However, the effect of possible heteroscedasticity on the F-test applied in the mean difference test was mitigated if the samples were of the same or similar size.

⁵ We excluded individuals over 60 years of age from the analysis due to the small size of the group.

Figure 7 presents the comparisons that showed significant differences between age groups.

Figure 7. Mean Inclusion Scores by Age Group Across Educational Dimensions⁶

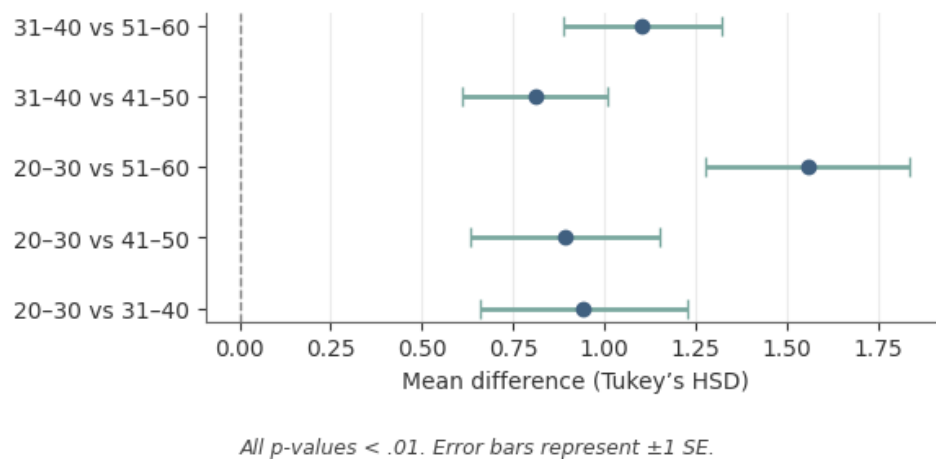


Source: Own elaboration.

To identify exactly which age groups differed significantly in their evaluations of the educational aspects, we applied Tukey's post hoc test. This test allowed for pairwise comparisons between all age groups and provided greater clarity about where the significant differences were. Regarding the necessary involvement of public authorities in teacher training, both the age and gender of the interviewees showed significant differences; in the case of the latter, it was women who most strongly demanded such administrative involvement. In the case of age, we could not tell from the ANOVA which groups showed the differences, we used Tukey's test to explore this aspect further. Figure 8 shows the results for which we found significant differences. In both cases, we found that it was the youngest teachers, those aged between 20 and 30, who best valued training in relation to disability. On the other hand, concerning the need for involvement on behalf of public authorities, teachers aged between 20 and 40 were the ones who demanded such administrative help the most, on the assumption that all groups asked for it.

⁶ Asterisks indicate significant differences according to one-way ANOVA ($p < .05$). Teachers aged 20–30 reported higher inclusion ratings than older groups, particularly in items related to classroom functioning, school structure, and adapted spaces.

Figure 8. Tukey's HSD Test – Visual Summary of Age Group Comparisons on Teachers' Knowledge About Disability

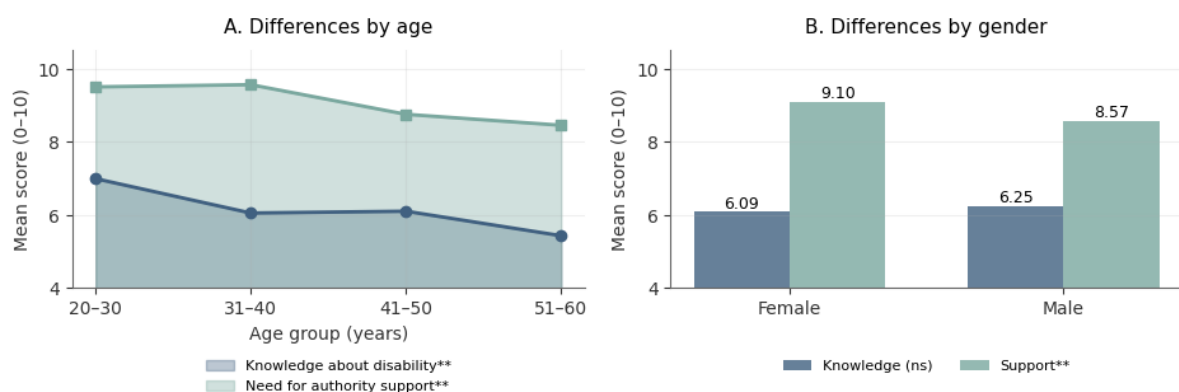


Source: Own elaboration.

According to the data, we concluded that teachers aged 51-60 years old had a lower assessment of the variables considered; that is, they were more pessimistic than younger teachers about the perception of the ability of people with disabilities to follow the normal functioning of the classroom, the level of conditioning of the center, and the provision of spaces adapted for movement, and, in the first two cases, they were also more pessimistic than teachers aged between 31 and 40 years old.

Regarding the respondents' assessment of teacher training in relation to disability, as well as the need for greater involvement by public administrations in improving teacher qualifications, we analysed the existence of differences by gender and age. Figure 9 shows the results of the mean difference and ANOVA respectively.

Figure 9. Difference in Means for Educational Aspects / Depending on Gender and Age

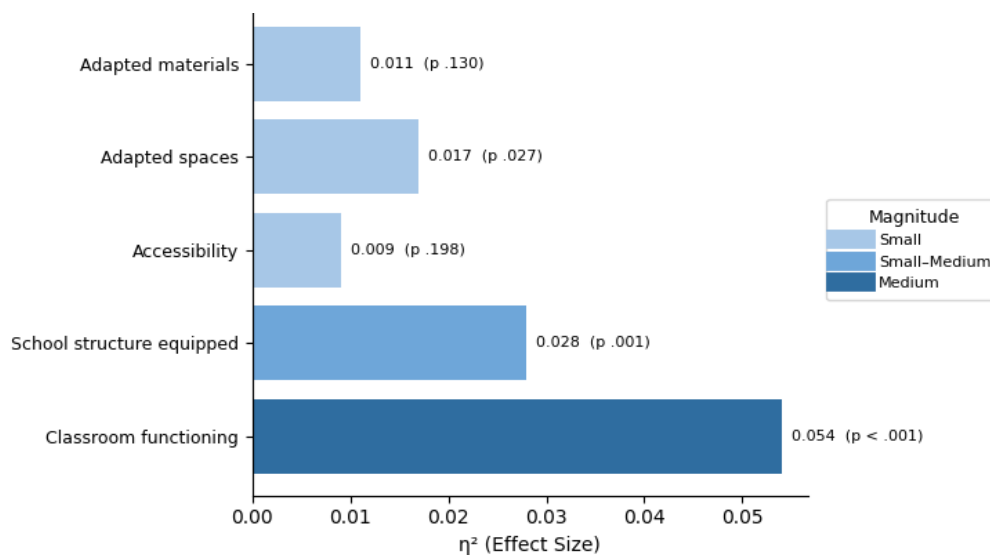


** p < .01 (ANOVA and t-test for group differences)

Source: Own elaboration.

In order to estimate the magnitude of the observed age effects, effect sizes (η^2) were calculated for each inclusion dimension (see Figure 10). The effect of age was moderate for the perception that people with disabilities can follow normal classroom functioning ($\eta^2 = .05$), and small for school structure, accessibility, adapted spaces, and adapted materials (η^2 range = .01–.03). These results indicate that, although statistically significant, age differences accounted for a modest proportion of the variance in teachers' inclusion perceptions.

Figure 10. Effect Sizes (η^2) and Significance (p) by Variable⁷



Source: Own elaboration.

From the analysis of the results, we concluded that there were no differences between men and women in terms of their perception of how well-prepared teachers were to deal with disability, although there were differences according to age.

In this way, the set of results reinforces the idea that younger teachers tend to value disability-related training more highly and are also more likely to expect active support from public institutions. These results indicate that younger teachers tend to report more favourable evaluations of disability-related training and express greater expectations regarding institutional support. The following section will explore these findings in greater depth.

⁷ Effect sizes (η^2) were calculated as $\eta^2 = \frac{F \times df_{between}}{F \times df_{between} + df_{within}}$, with $df_{between} = 3$ and $df_{within} = 480$. According to Cohen's benchmarks (.01 small, .06 medium, .14 large), the effect of age on classroom functioning was moderate, whereas the remaining dimensions showed small effects.

Discussion

Analysis of the treatment of disability over time reveals a contrasting evolution from a medical model to a more inclusive, social approach. Traditionally, disability has been approached from a medical perspective and considered a problem inherent to the individual, which has led to solutions focused on diagnosis, treatment, and sometimes individual adaptation, without addressing systemic and structural barriers. This view has been criticized for its limited ability to understand disability in its entirety, ignoring how social and environmental structures can influence and perpetuate the limitations of people with disabilities. Recent research has emphasised the need to analyze disability through broader social and institutional frameworks (Brinkman *et al.*, 2023; Kraus, 2023; Saia, 2023; Sherwood & Kattari, 2023; Shume, 2023).

Against this background, the findings of the present study provide empirical evidence on how teachers perceive the challenges and opportunities associated with inclusive education in the Spanish educational system. The results highlight both positive evaluations of inclusive education and the persistence of important institutional and organizational barriers that affect its practical implementation.

First, as we have already mentioned, our findings reflect a largely positive perception of inclusion in education, which is in line with studies such as that of Lacruz-Pérez (2021), which suggests that teachers in Spain tend to positively value inclusive education. However, there is a shared concern about insufficient material and human resources. An interesting aspect emerging from the analysis concerns the contrast between quantitative and qualitative responses. While teachers tend to rate aspects such as accessibility and school infrastructure relatively positively in the quantitative items, the qualitative responses reveal a stronger demand for improvements in material resources, accessibility, and specialised support. This apparent contradiction may reflect the difficulty of capturing the complexity of inclusive practices through closed survey items alone, suggesting that teachers may evaluate general institutional conditions positively while simultaneously identifying specific limitations in everyday educational practice. This aspect has been consistently highlighted in recent research, in fact although inclusive education has advanced in normative terms, there is still a significant gap in practical implementation, especially in terms of adapted resources and specialised staff. Likewise, teachers aged 51-60 have a more pessimistic assessment of the monitoring of classroom dynamics for people with disabilities, in contrast to younger teachers.

In addition to these significant differences by age, the effect size analysis provides a more precise understanding of their magnitude. The ANOVA results indicated that the age effect was moderate for teachers' perceptions of classroom functioning ($\eta^2 = .05$) and small for the remaining inclusion dimensions

(η^2 range = .01–.03). These findings suggest that, while age explains a modest proportion of the variance, the pattern is consistent and meaningful. This aligns with previous studies showing that generational differences in teacher preparation and exposure to inclusive education frameworks partly account for more favourable attitudes among younger teachers (Loreman *et al.*, 2013). The results therefore highlight the relevance of recent training policies and curricular updates in shaping teachers' inclusive perceptions and practices.

In this sense, teacher training is a relevant aspect for the correct implementation of inclusive educational models, which has been previously detected (Ní Bhroin & King, 2019). Although most of the teachers in our study perceived their training as adequate (with an average score above 5), this result contrasts with other studies that point out the need to improve specific teacher training on disability/social inclusion issues.

Another noteworthy aspect of the results is teachers' perception of social and attitudinal barriers faced by people with disabilities. The results obtained indicate that teachers generally consider that people with disabilities have problems in their social relations, which contradicts the findings of Navarro (2015), who indicates that teachers do not perceive difficulties in social relations between students with and without disabilities. These findings also highlight the complexity of disability as both a social and educational phenomenon. Disability cannot be reduced to individual characteristics alone, as it is shaped by multiple social, institutional, and environmental factors. Consequently, understanding the challenges of inclusive education requires considering not only individual needs but also the broader structural conditions that influence participation and accessibility within educational institutions.

However, recent research indicates that teachers recognise the existence of social barriers and forms of exclusion that affect students with disabilities in mainstream classrooms. These perceived difficulties in peer interactions and social participation suggest that discrimination based on disability continues to be present in educational settings (Schwab *et al.*, 2021; Wang *et al.*, 2023). Finally, it should be noted that teachers' conceptions of students with disabilities can influence their social relationships in the classroom (Zee *et al.*, 2020).

In relation to the differences found according to the age of the teachers, our data shows that younger teachers tend to value more positively both accessibility and their own training in disability issues, which is in line with previous literature that, for years, has been based on these observations (Suriá, 2012). This could be explained by the more recent incorporation of these teachers into the education system, where training in inclusion has gained relevance in recent years, as highlighted by previous work by Langelaan *et al.* (2024), which underlines that the new generation

of teachers is better trained, both in terms of attitude and knowledge, to face problems in terms of educational inclusion.

Furthermore, it is relevant to mention the complexity of implementing truly inclusive education in a system that, as our results suggest, is still designed for a homogeneous student population (see H3). This finding is consistent with more recent literature (Rapp & Corral-Granados, 2021), which argues that, although progress has been made in terms of inclusive policies, the organisational and curricular structure of many schools still responds to a segregationist paradigm.

On the other hand, qualitative analysis shows that, although teachers rate the accessibility of their schools positively, the demand for improvements in material, technological, and specialized resources remains high.

Interestingly, several teachers also reported a lack of knowledge regarding the types of specialized materials that would be most appropriate for supporting students with disabilities. Some respondents explicitly indicated that they did not feel sufficiently qualified to recommend specific resources, suggesting that the availability of materials is closely linked to teachers' professional training and familiarity with inclusive educational tools.

This point has been addressed by recent studies, such as that of Ainscow (2020), who stresses that, in order to achieve effective inclusion, not only a change in the teachers' attitudes is required but also sustained investment in infrastructures and technology that allows for the adaptation of school spaces to the needs of all students.

Also, the Organisation for Economic Cooperation and Development (OECD, 2023), in its project "Equity and Inclusion in Education; Finding Strength through Diversity," has presented a conceptual framework that promotes inclusive education in diverse contexts, highlighting that inclusive education must go beyond the integration of students with special needs to encompass all vulnerable groups, such as immigrant or ethnic minority students. The OECD thus highlights the importance of modifying education systems to accommodate diversity, not just including students in pre-existing settings. This helps to alleviate the stratification of these groups and ensures that all students, regardless of their background, can have access to quality education.

Finally, recent research shows that teachers' attitudes toward inclusion are strongly influenced by their perceived self-efficacy and the level of professional preparation they receive. In this sense, the lack of specialized training and support continues to be a barrier that can negatively shape teachers' perceptions of their ability to successfully address the needs of students with disabilities. However, longitudinal evidence indicates that when training and support programmes are implemented to strengthen teachers' efficacy in inclusive practices, their attitudes

become more positive over time, reinforcing the importance of continuous professional development in this area (Gülsün *et al.*, 2023; Savolainen *et al.*, 2022).

Conclusions

Overall, the findings of this study provide relevant insights into teachers' perceptions of disability and inclusive education in Spain. The results indicate that teachers' perceptions of inclusive education vary across generational cohorts (H1). While a significant proportion of teachers express positive attitudes towards inclusion, structural and conceptual barriers continue to affect its full implementation.

Regarding inequalities in equal opportunities and universal access (IOAU), the second hypothesis (H2) is partially supported. Although educational institutions have made efforts to remove barriers, especially in terms of physical accessibility, the results suggest that teachers perceive important differences in how the principles of equal opportunities and universal access are implemented across educational institutions.

The third hypothesis (H3) is also supported by the findings, as many teachers perceive that mainstream schools continue to operate according to organisational structures that are oriented toward relatively homogeneous student populations.

Although a high proportion of teachers perceive themselves as relatively well prepared to work with students with disabilities, the qualitative findings reveal a persistent demand for more specialised training and institutional support.

Finally, teachers also perceive that students with disabilities continue to face difficulties in their social interactions within the school environment, highlighting the persistence of attitudinal barriers within educational contexts.

Taken together, these findings contribute to ongoing debates on inclusive education by highlighting how teachers' perceptions reflect both the progress achieved in inclusive policies and the institutional challenges that remain in translating these principles into everyday educational practice.

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Data availability

All data used and analysed in this study are presented within the manuscript (tables, figures, and methodological descriptions). No additional datasets are available.

CRedit authorship contributions

Anabel Paramá-Díaz: Conceptualization; Data curation; Validation; Writing – review & editing. *Olga Jedrysiak Gutowska*: Formal analysis; Software; Investigation; Writing – original draft. *Enrique Fernández-Vilas*: Formal Analysis; Investigation; Writing – review & editing; Visualization. *Blanca García Gómez*: Methodology; Formal analysis; Writing – review & editing; Visualization. *Susana Gómez-Redondo*: Formal analysis; Investigation; Writing – review & editing. *Marcos Iglesias Carrera*: Formal analysis; Writing – original draft; Writing – review & editing. *Juan R. Coca*: Supervision; Project Administration; Writing – review & editing.